L Number	Hits	Search Text	DB	Time stamp
5	2979	((electrophoretic\$2 (electro near2 phoretic\$2)) near5	USPAT;	2004/07/15 13:12
		(medium composition solution))	US-PGPUB;	
		, , , , , , , , , , , , , , , , , , ,	EPO; JPO;	
			DERWENT;	
			IBM_TDB	
7	13	(((electrophoretic\$2 (electro near2 phoretic\$2)) near5	USPAT;	2004/07/15 13:10
		(medium composition solution))) and (pigment with	US-PGPUB;	
		(crosslink\$3 (cross adj2 link\$3) bond\$3) with (polymer))	EPO; JPO;	
			DERWENT;	
			IBM_TDB	
8	27	(((electrophoretic\$2 (electro near2 phoretic\$2)) near5	USPAT;	2004/07/15 13:12
		(medium composition solution))) and ((desorb\$4 desorp\$4)	US-PGPUB;	
		same charge)	EPO; JPO;	
			DERWENT;	
			IBM_TDB	
9	2	((((electrophoretic\$2 (electro near2 phoretic\$2)) near5	USPAT;	2004/07/15 13:11
		(medium composition solution))) and ((desorb\$4 desorp\$4)	US-PGPUB;	
		same charge)) and pigment	EPO; JPO;	
			DERWENT;	
			IBM_TDB	
12	4776	((electrophoretic\$2 (electro near2 phoretic\$2)) with (medium	USPAT;	2004/07/15 13:12
		composition solution))	US-PGPUB;	
			EPO; JPO;	
			DERWENT;	
40		///-14	IBM_TDB	0004/07/45 40 40
13	30	(((electrophoretic\$2 (electro near2 phoretic\$2)) with (medium	USPAT;	2004/07/15 13:12
		composition solution))) and ((desorb\$4 desorp\$4) same	US-PGPUB;	
		charge)	EPO; JPO;	
			DERWENT;	
14 .	3	////alastranharatia\$2 (alastra near2 nharatia\$2)) with	IBM_TDB USPAT;	2004/07/15 13:32
14 .]	((((electrophoretic\$2 (electro near2 phoretic\$2)) with (medium composition solution)) and ((desorb\$4 desorp\$4)	US-PGPUB;	2004/07/10 10.02
	1	(medium composition solution))) and ((desorboa desorpoa) same charge)) and pigment	EPO; JPO;	
	1	Same charge// and pigment	DERWENT;	
			IBM TDB	
	l	<u> </u>	LIDIM I DB	

21	71	(((electrophoretic\$2 (electro near2 phoretic\$2)) near5	USPAT;	2004/07/15 13:33
		(medium composition solution))) and (((H0001828 or	US-PGPUB	
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		"6398858" or "6392786" or "6377387" or "6376828" or	•	
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		"6121371" or "6120839" or "6120588" or "6118426" or		
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		"6071980" or "6069205" or "6068688" or "6067185" or		
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22	1	((((electrophoretic\$2 (electro near2 phoretic\$2)) near5	USPAT;	2004/07/15 13:33
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17	49	(H0001828 or "6473072" or "6459418" or "6445489" or "6413790" or "6398858" or "6392786" or "6377387" or	USPAT; US-PGPUB	2004/07/15 13:39
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25	2	1 990/0/0	DERWENT:	2004/07/15 14.15
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WORLD INTELLECTUAL PROPERTY ORGANIZATION International Bureau





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(71) Applicant: CABOT CORPORATION [US/US]; 75 State Street, Boston, MA 02109-1806 (US).

(72) Inventors: JOHNSON, Joseph, E.; 9 Ayer Street, Nashua, NH 03062 (US). BIAN, Nanying; 8 Turnbridge Drive, Nashua, NH 03062 (US). GALLOWAY, Collin, P.; Apartment K, 44 Bay Drive, Nashua, NH 03062 (US).

(74) Agents: LANDO, Michelle, B.; Cabot Corporation, Billerica Technical Center, 157 Concord Road, Billerica, MA 01821-7001 (US) et al.

(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published

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(54) Title: MODIFIED PIGMENTS HAVING IMPROVED DISPERSING PROPERTIES

(57) Abstract

Various modified pigment products are described which are preferably capable of being dispersed in a variety of materials such as coatings, inks, toners, films, plastics, polymers, elastomers, and the like. The modified pigments are pigments having attached groups, such as polymeric groups, onto the pigment by means other than adsorption. A modified pigment product is described comprising a pigment having attached at least one group comprising the formula: -X-[NIon]_pR, wherein X comprises an aromatic group or an alkyl group, NIon comprises at least one type of non-lonic group, R represents hydrogen or comprises an aromatic group or an alkyl group, and p represents an integer of from 1 to 500. Modified pigment products are also described comprising a pigment having attached at least one alkylene oxide group or at least one polymeric group. In addition, other types of modified pigment products are described as well as their incorporation into inks, coatings, toners, films, plastics, polymers, elastomers, and the like. Methods of making the modified pigment products are also described.